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10/816,247

03/31/2004

Seung June Yi

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35884

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LEE, HONG, DEGERMAN, KANG & SCHMADEKA

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EXAMINER

CONTINO, PAUL F

ART UNIT

PAPER NUMBER

2114

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/816,247

Applicant(s)

YI ET AL.

Examiner

Paul Contino

Art Unit

2114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION: Non-Final Rejection

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in the Republic of Korea on April 1, 2003. It is noted, however, that applicant has not filed a certified copy of the priority documents as required by 35 U.S.C. 119(b).

Claim Objections

2. Claim 4 is objected to because of the following informalities: line 1 states "has error" where "has an error" is more correct. Appropriate correction is required.

3. Claim 25 is objected to because of the following informalities: it is not clearly understood what "a delivery of erroneous SDUs instruction" means. The Examiner interprets the meaning of claim 25 as similar to the language in claim 16 in order to apply prior art. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-28 are rejected under 35 U.S.C. 102(b) as being anticipated by WCDMA (*WCDMA for UMTS: Radio Access for Third Generation Mobile Communications*).

As in claim 1, WCDMA discloses a method of processing data in a receiver apparatus used in a wireless communication system, the receiver apparatus comprising a medium access control (MAC) layer and a radio link control (RLC) layer for processing data units (*page 117 lines 5-6 under Introduction*), the method comprising the steps of:

communicating a data unit and a cyclic redundancy code (CRC) check result associated with the data unit from the MAC layer to the RLC layer (*page 123 lines 5-6 under 7.4.1 RLC Layer Architecture*);

examining in the RLC layer that the CRC check result sent from the MAC layer that indicates whether the data unit has an error (*page 124 in lines 6-7 where it is implied that a data unit has an error because of the determination as to whether or not the data unit should be discarded*); and

discarding the data unit when the data unit has error and when an error handling scheme is not provided (*page 124 in lines 6-7, where it is interpreted that a configuration that discards a data unit does not have an error handling scheme*).

As in claim 2, WCDMA discloses the error handling scheme comprises an instruction associated with a delivery of erroneous SDU (*page 124 in lines 6-7 where the marking of erroneous data implies an instruction associated with an erroneous SDU*).

As in claim 3, WCDMA discloses the data unit comprises a protocol data unit (*page 123 in lines 7-8 under 7.4.1 RLC Layer Architecture*).

As in claim 4, WCDMA discloses when the data unit has error by examining the CRC check result and when the error handling scheme is provided, then the error handling scheme indicates one of deliver the data unit to a higher layer with an error indication, discard the data unit (*page 124 lines 20-21, where upper layer notification and data unit discarding is interpreted as an error handling scheme*), and deliver the data unit to a higher layer without an error indication.

As in claim 5, WCDMA discloses a receiver apparatus for processing data in a wireless communication system, the receiver apparatus comprising:

‘ a medium access control (MAC) layer that transfers a data unit and a cyclic redundancy code (CRC) check result associated with the data unit (*page 123 lines 5-6 under 7.4.1 RLC Layer Architecture; page 127 lines 23-26*); and

a radio link control (RLC) layer in communication with the MAC layer, the RLC layer receiving from the MAC layer the data unit and the CRC check result, wherein the RLC layer examines the CRC check result sent from the MAC layer that indicates whether the data unit has

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an error (*page 124 in lines 6-7 where it is implied that a data unit has an error because of the determination as to whether or not the data unit should be discarded*), and discards the data unit when the data unit has error and when an error handling scheme is not provided (*page 124 in lines 6-7, where it is interpreted that a configuration that discards a data unit does not have an error handling scheme*).

As in claim 6, WCDMA discloses the error handling scheme comprises an instruction associated with a delivery of erroneous SDU (*page 124 in lines 6-7 where the marking of erroneous data implies an instruction associated with an erroneous SDU*).

As in claim 7, WCDMA discloses the data unit comprises a protocol data unit (*page 123 in lines 7-8 under 7.4.1 RLC Layer Architecture*).

As in claim 8, WCDMA discloses when the data unit has error by examining the CRC check result and when the error handling scheme is provided, then the error handling scheme indicates one of deliver the data unit to a higher layer with an error indication, discard the data unit (*page 124 lines 20-21, where upper layer notification and data unit discarding is interpreted as an error handling scheme*), and deliver the data unit to a higher layer without an error indication.

As in claim 9, WCDMA discloses A method of processing data in a receiver apparatus used in a wireless communication system, the receiver apparatus comprising a medium access

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control (MAC) layer and a radio link control (RLC) layer for processing data units (*page 117 lines 5-6 under Introduction*), the method comprising the steps of:

communicating a data unit and a cyclic redundancy code (CRC) check result associated with the data unit from the MAC layer to the RLC layer (*page 123 lines 5-6 under 7.4.1 RLC Layer Architecture*);

determining in the RLC layer that the CRC check result indicates the data unit has an error (*page 124 in lines 6-7 where it is implied that a data unit has an error because of the determination as to whether or not the data unit should be discarded*); and

processing the data unit in accordance with one of a first manner and a second manner, the selection of one of the first manner and the second manner based upon at least an operation mode (*pages 123-124, where a first manner is interpreted as a result of either an acknowledged mode or an unacknowledged mode, and the second manner is interpreted as a result of a transparent mode*).

As in claim 10, WCDMA discloses the data unit is processed in the first manner if the operation mode is one of unacknowledged mode (UM) and acknowledged mode (AM) (*page 124*).

As in claim 11, WCDMA discloses the data unit is processed in the second manner if the operation mode is transparent mode (TM) (*pages 123-124*).

As in claim 12, WCDMA discloses the first manner comprises discarding the data unit in the RLC layer (*page 124*).

As in claim 13, WCDMA discloses the second manner comprises checking whether an error handling scheme has been provided (*page 123 lines 7-8 under 7.4.1 RLC Layer Architecture, where the determination as to whether to discard [no error handling] or mark erroneous data [error handling] is interpreted as checking for an error handling scheme*).

As in claim 14, WCDMA discloses if the error handling scheme is not provided, then the data unit is discarded (*page 123 lines 7-8 under 7.4.1 RLC Layer Architecture*).

As in claim 15, WCDMA discloses if the error handling scheme is provided, then the data unit is processed according to the error handling scheme (*page 123 lines 7-8 under 7.4.1 RLC Layer Architecture, marking of data as erroneous*).

As in claim 16, WCDMA discloses the error handling scheme comprises an instruction associated with a delivery of erroneous SDU (*page 123 in lines 7-8 under 7.4.1 RLC Layer Architecture, where the marking of erroneous data implies an instruction associated with an erroneous SDU*).

As in claim 17, WCDMA discloses the delivery of [an] erroneous SDU instruction indicates one of deliver an erroneous SDU to a higher layer with an error indication, discard an

erroneous SDU (*page 124 lines 20-21, where upper layer notification and data unit discarding is interpreted as an error handling scheme*), and deliver an erroneous SDU to a higher layer without an error indication.

As in claim 18, WCDMA discloses the data unit received from the MAC layer does not include a header information associated with the MAC layer (*page 119 in the last sentence under MAC-c/sh*).

As in claim 19, WCDMA discloses the data unit received from the MAC layer is associated with a logical channel that is mapped in a 1:1 ratio with a transport channel (*page 119 in lines 5-6 under MAC-c/sh, where it is interpreted that mapping of the single BCCH logical channel to a single BCH/FACH transport channel implies a 1:1 mapping ratio*).

As in claim 20, WCDMA discloses A receiver apparatus for processing data in a wireless communication system, the receiver apparatus comprising:

a medium access control (MAC) layer that transfers a data unit and a cyclic redundancy code (CRC) check result associated with the data unit (*page 123 lines 5-6 under 7.4.1 RLC Layer Architecture; page 127 lines 23-26*); and

a radio link control (RLC) layer in communication with the MAC layer, the RLC layer receiving from the MAC layer the data unit and the CRC check result, wherein the RLC layer examines the CRC check result sent from the MAC layer that indicates whether the data unit has an error (*page 124 in lines 6-7 where it is implied that a data unit has an error because of the*

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determination as to whether or not the data unit should be discarded), and processes the data unit in accordance with one of a first manner and a second manner, the selection of one of the first manner and the second manner based upon at least an operation mode (pages 123-124, where a first manner is interpreted as a result of either an acknowledged mode or an unacknowledged mode, and the second manner is interpreted as a result of a transparent mode).

As in claim 21, WCDMA discloses the data unit is processed in the first manner if the operation mode is one of unacknowledged mode (UM) and acknowledged mode (AM) (page 124).

As in claim 22, WCDMA discloses the data unit is processed in the second manner if the operation mode is transparent mode (TM) (pages 123-124).

As in claim 23, WCDMA discloses the first manner comprises discarding the data unit in the RLC layer (page 124).

As in claim 24, WCDMA discloses the second manner comprises checking whether an error handling scheme has been provided (page 123 lines 7-8 under 7.4.1 RLC Layer Architecture, where the determination as to whether to discard [no error handling] or mark erroneous data [error handling] is interpreted as checking for an error handling scheme).

As in claim 25, WCDMA discloses the error handling scheme comprises a delivery of erroneous SDUs instruction (*page 123 in lines 7-8 under 7.4.1 RLC Layer Architecture, where the marking of erroneous data implies an instruction associated with an erroneous SDU*).

As in claim 26, WCDMA discloses the delivery of [an] erroneous SDUs' instruction indicates one of deliver an erroneous SDU to a higher layer with an error indication, discard an erroneous SDU (*page 124 lines 20-21, where upper layer notification and data unit discarding is interpreted as an error handling scheme*), and deliver an erroneous SDU to a higher layer without an error indication.

As in claim 27, WCDMA discloses the data unit received from the MAC layer does not include a header information associated with the MAC layer (*page 119 in the last sentence under MAC-c/sh*).

As in claim 28, WCDMA discloses the data unit received from the MAC layer is associated with a logical channel that is mapped in a 1:1 ratio with a transport channel (*page 119 in lines 5-6 under MAC-c/sh, where it is interpreted that mapping of the single BCCH logical channel to a single BCH/FACH transport channel implies a 1:1 mapping ratio*).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 29-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over CarTALK (*Communication Architecture Deliverable D6*) in view of Nagpal et al. (US PGPub 2003/0211846).

As in claim 29, CarTALK teaches a method of processing data in a receiver apparatus used in a wireless communication system, the receiver apparatus comprising a physical layer and a medium access control (MAC) layer for processing data units (*Figs. 47-50*), the method comprising the steps of:

communicating a data unit and a cyclic redundancy code (CRC) check result associated with the data unit from the physical layer to the MAC layer (*Figs. 47 and 49; page 90*);

determining in the MAC layer that the CRC check result indicates the data unit has an error (*page 90*); and

checking whether an error handling scheme is provided (*page 90, last sentence, where an error notification is interpreted as an error scheme*).

However, CarTALK fails to teach the remainder of the limitations of the claim. Nagpal et al. teaches of examining the data unit for presence of header information associated with a MAC header (*paragraphs [0048]-[0050], where the discriminating indicator in the MAC header is interpreted as header information associated with a MAC header; claims 2 and 14*); discarding the data unit if the header information is present (*paragraphs [0048]-[0053]; claims 2 and 14*); and processing the data unit if the header information is not present (*paragraphs [0049]-[0053]*).

It would have been obvious to a person skilled in the art at the time the invention was made to have included the header checking as taught by Nagpal et al. in the invention of CarTALK. This would have been obvious because selective processing of CCCH messages as taught by Nagpal et al. reduces power consumed (*abstract, paragraph [0010]*) in the same environment and implementation as taught by CarTALK.

As in claim 30, CarTALK teaches if the error handling scheme is not provided, then the data unit is discarded (*page 90 last sentence*).

As in claim 31, CarTALK teaches if the error handling scheme is provided, then the data unit is processed according to the error handling scheme (*page 90 last sentence, where error notification is interpreted as a result of the error handling scheme*).

As in claim 32, CarTALK teaches the error handling scheme comprises an instruction associated with a delivery of [an] erroneous SDU (*page 90 last paragraph, where the error notification implies an instruction associated with an erroneous SDU*).

As in claim 33, CarTALK teaches the delivery of [an] erroneous SDU instruction indicates one of deliver an erroneous SDU to a higher layer with an error indication, discard an erroneous SDU (*page 124 lines 20-21, where error notification forwarding [to a higher level] and data unit discarding is interpreted as an error handling scheme*), and deliver an erroneous SDU to a higher layer without an error indication.

As in claim 34, CarTALK teaches a receiver apparatus for processing data in a wireless communication system, the receiver apparatus comprising:

a physical layer that transfers a data unit and a cyclic redundancy code (CRC) check result associated with the data unit (*Figs. 47 and 49; page 90*); and

a medium access control (MAC) layer in communication with the physical layer, the MAC layer receiving from the physical layer the data unit and the CRC check result (*Figs. 47-50; page 90*), wherein the MAC layer examines the CRC check result sent from the physical layer that indicates whether the data unit has an error (*page 90*), and further examines the data unit for presence of header information associated with a MAC header (*page 90*), and checking whether an error handling scheme is provided (*page 90, last sentence, where an error notification is interpreted as an error scheme*).

However, CarTALK fails to teach the remainder of the limitations of claim 34. Nagpal et al. teaches of discarding the data unit if the header information is present (*paragraphs [0048]-[0053]; claims 2 and 14*).

It would have been obvious to a person skilled in the art at the time the invention was made to have included the header checking as taught by Nagpal et al. in the invention of CarTALK. This would have been obvious because selective processing of CCCH messages as taught by Nagpal et al. reduces power consumed (*abstract, paragraph [0010]*) in the same environment and implementation as taught by CarTALK. It is further interpreted that, as an inherent part of WCDMA, UMTS, and processing through layers 1 (physical) and 2 (MAC/RLC), as defined by 3GPP, after determination that the header information is not present (as taught by Nagpal et al.), checking for an error scheme will occur next in the processing of the data unit (as taught by CarTALK).

Examiner's Note

6. The Examiner would like to comment on the Applicant's invention as claimed. With respect to claims 1-28, it is interpreted that the claim limitations parallel the specification of WCDMA/UMTS/3GPP. The claims seem to be a description of well-established radio interface protocols and their processing of information, rather than an expansion upon them. Please refer to the documentation applied in the prior art rejections (especially *WCDMA for UMTS*), protocol specifications defined by 3GPP, and the Applicant's applied prior art described in the

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Background of the Invention section of the Specification. The Examiner cannot find any novelty present in the Applicant's invention as claimed with respect to claims 1-28.

The Examiner also feels that the claims are lacking inclusion of a feature of the Applicant's invention that the Applicant has addressed as a distinguishing component of the invention. This feature is the associated processing of an AMR codec, which is discussed throughout the Specification, including the Field of Invention (paragraph [0002]).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. PGPub 2004/0153852 Wu discloses MAC/RLC CRC error checking and processing.

U.S. Patent 6,675,016 Lucidarme et al. discloses MAC/RLC processing of data units.

U.S. Patent 6,915,473 Bolourchi et al. discloses CRC processing with MAC/RLC.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Contino whose telephone number is (571) 272-3657. The examiner can normally be reached on Monday-Friday 9:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on (571) 272-3644. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PFC
12/21/2006


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